

# **Grand Lagoon Seagrass Restoration & Water Quality Management**

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**Prepared for  
RESTORE ACT Advisory Committee  
& consideration by the  
Bay County Board of County Commissioners  
Florida**

*Nov. 2014 - presented by*



***Gannett Fleming***

# Project Team



***Gannett Fleming***



**Local  
Firms & Organizations  
&  
Complementary Proposals**



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# Project Justification

- **Significant Loss of Seagrasses in the Lagoon**
- **Decrease in Lagoon's Aquatic Species Diversity and Nursery Functionality**
- **Decline in Lagoon's Natural Resource Valuation**
- **>80 % of Marine Species Depend on Estuaries for Some Part of Their Life Cycle**
- **Gulf Ecosystem Restoration Depends on the Restoration of All Estuaries**



# Baywatch 1990-2006 WQ Data

## Grand Lagoon

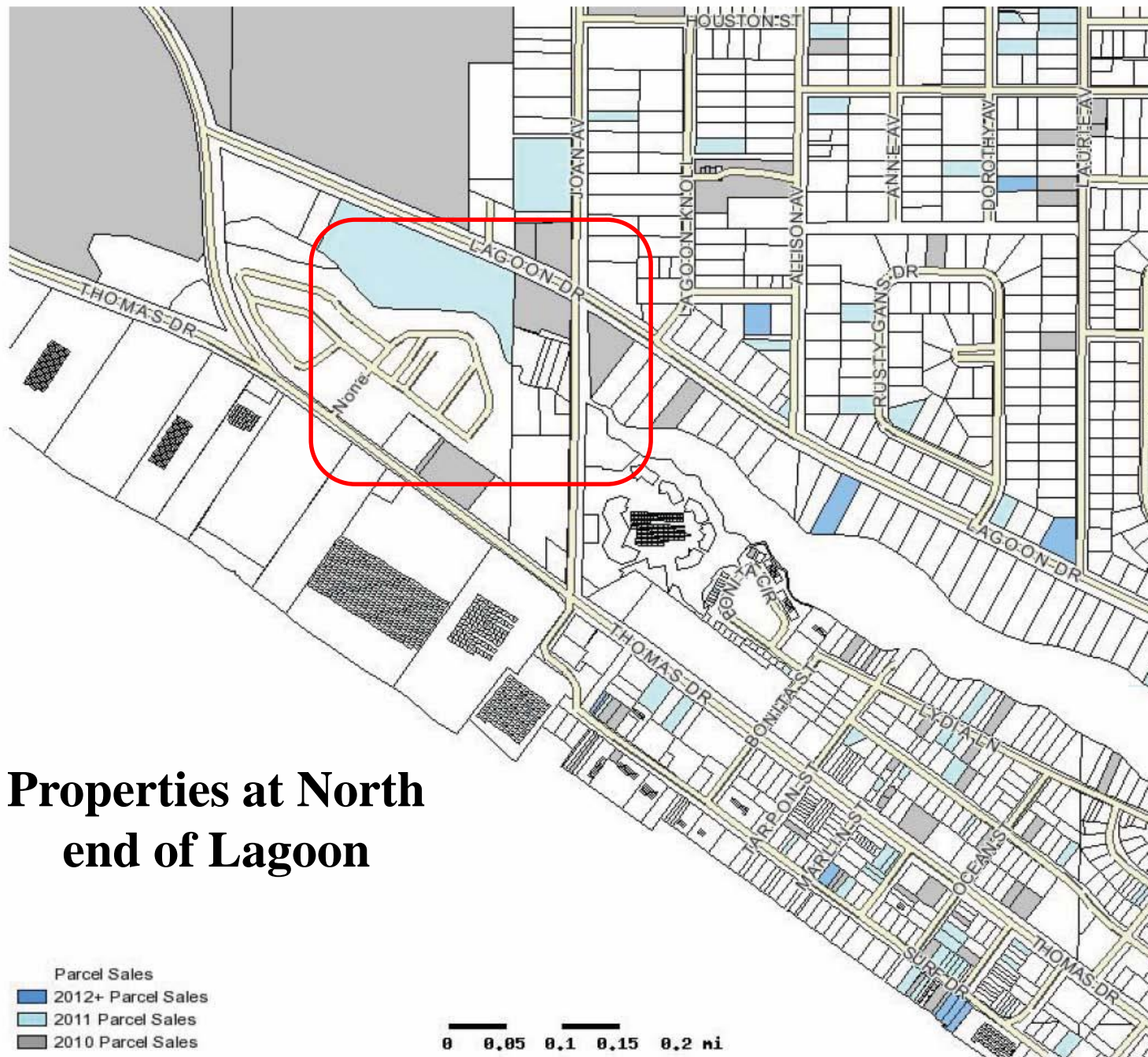
		Total Phosphorus (ug/L)		Total Nitrogen (ug/L)		Chlorophyll a (ug/L)	
Sta #		Mean	Range	Mean	Range	Mean	Range
West End	9.1	77.0	23-600	735.0	220-1170	21.6	3-80
	9.2	53.9	14-97	616.0	170-980	15.4	3-52
W Bridge	9.3	29.7	9-60	433.0	190-1020	6.9	1-20
E Bridge	9.4	19.8	4-58	328.0	120-700	3.3	1-26
East End	9.5	21.0	7-92	331.0	110-690	3.3	1-16
Inlet	3.7	11.5	3-45	210.0	70-940	2.2	1-18
Open Gulf	3.8	8.2	5-15	219.0	60-670	1.3	1-3
		120 X		20 X		80 X	

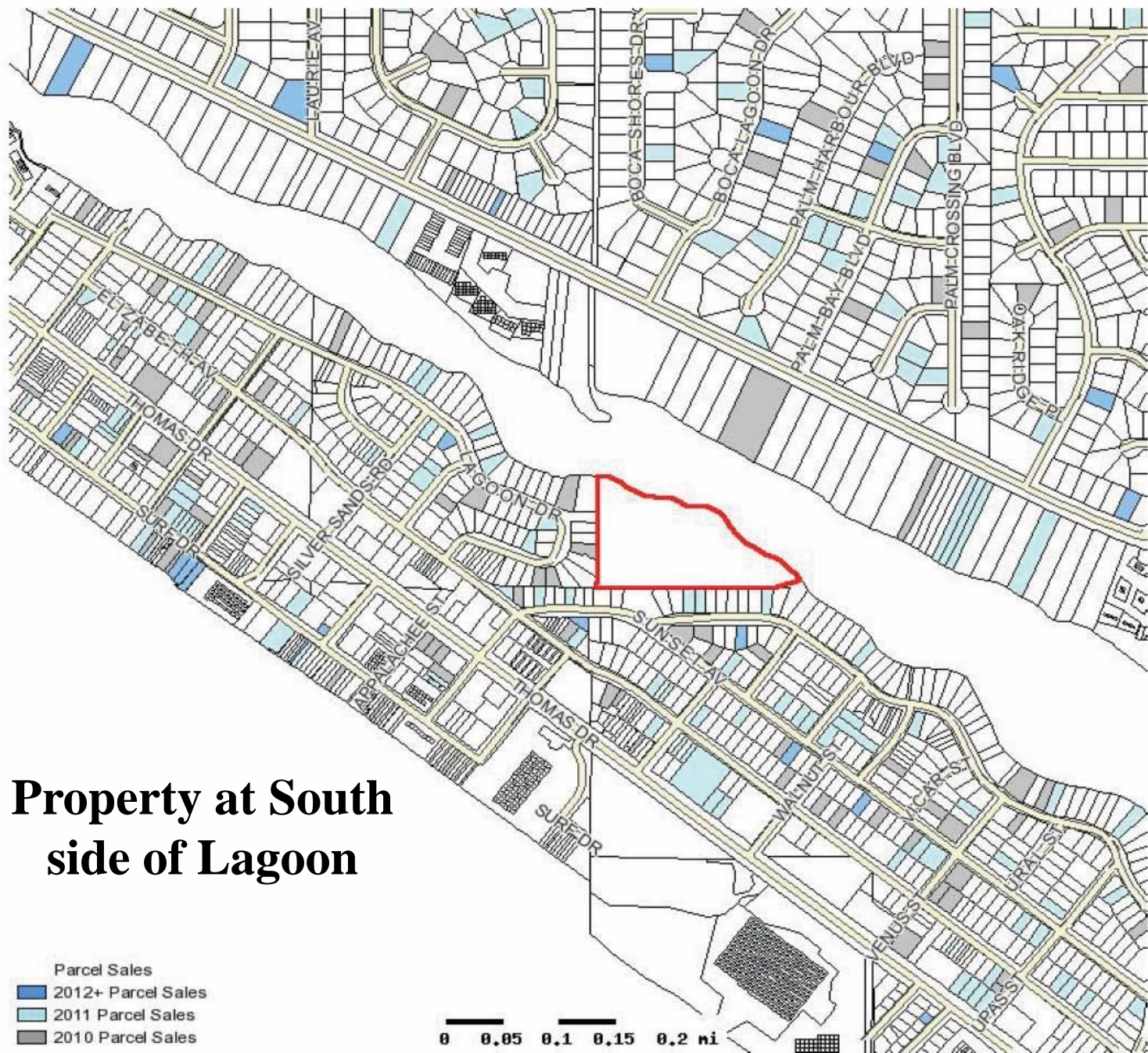
# **Restoration Targets for Grand Lagoon**

- **Decrease Residence Time & Nutrient Concentrations**
- **Increase Water Clarity (> 1.0 meter Secchi Disk)**
- **Limit Minimum Benthic Salinity (23 ppt)**
- **Mitigate Stormwater Impact On Ecosystem**
- **Sustain Resource Valuation at \$20,500 per Ac/yr  
(\$16M/yr for \$328M over 20 years)**







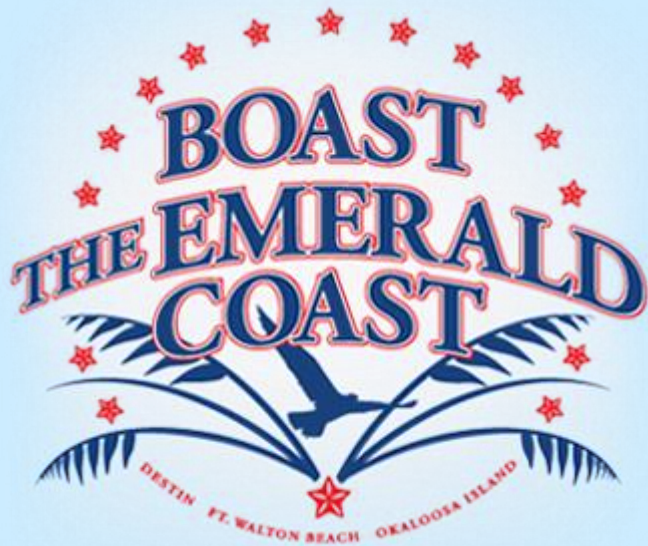


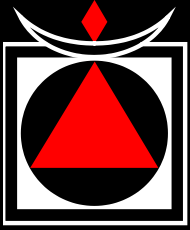
# **Phase 1 RESTORE**

## **Funding Request of \$1.8 M**

- **Perform Environmental Studies**
- **Conduct Soil Borings to Locate Pipeline**
- **Evaluate & Select Property**
- **Prepare Engineering Design**
- **Prepare Bid Documents**
- **Submit Environmental Permits**
- **Timeline = appx. 18 to 24 months**







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**Sustainable Ecosystems  
For  
A Productive Future**

